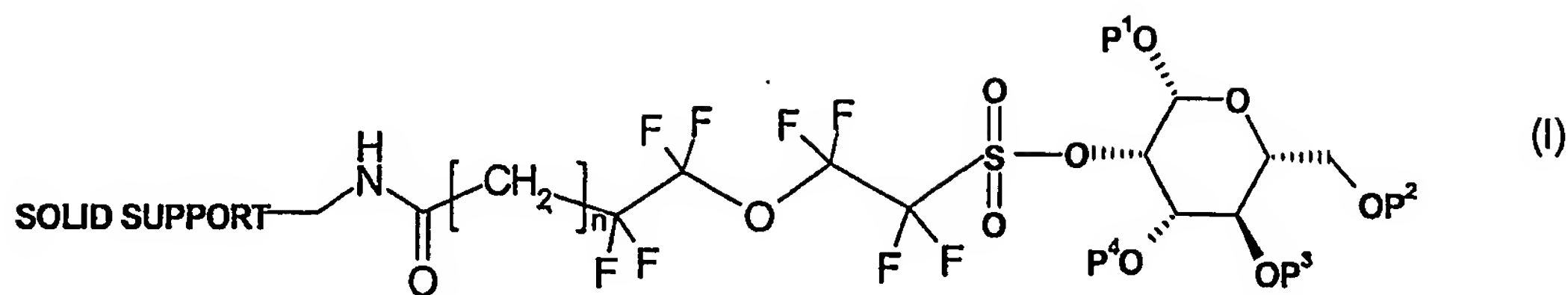


Claims

1. A compound of formula (I):



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wherein  $P^1$ ,  $P^2$ ,  $P^3$ , and  $P^4$  are each independently hydrogen or a protecting group;  
and  $n$  is an integer of from 2 to 20.

2. A compound of formula (I) according to claim 1 in which  $n$  is 4 to 12.

10

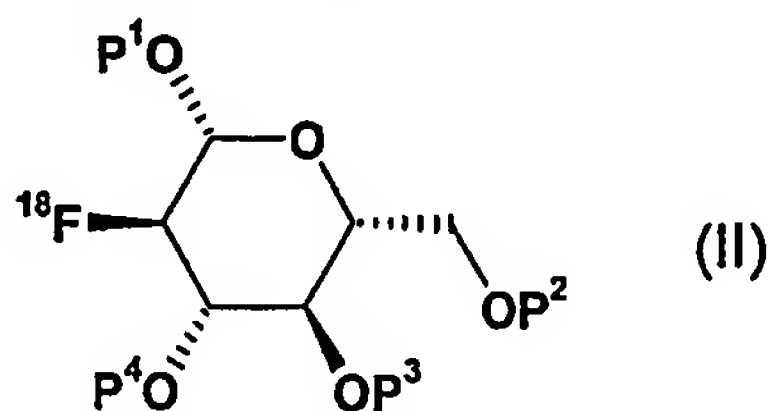
3. A compound of formula (I) according to claim 1 or 2 in which  $n$  is 6 to 10.

4. A compound of formula (I) according to any of claims 1 to 3 in which  $n$  is 10.

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5. A process for the production of 2- $^{18}F$ -fluoro-2-deoxy-D-glucose ( $^{18}F$ -FDG) which comprises treatment of a compound of formula (I) according to any of claims 1 to 4,

with  $^{18}F^-$  to produce the labelled tracer of formula (II)



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wherein  $P^1$ ,  $P^2$ ,  $P^3$ , and  $P^4$  are each independently hydrogen or a protecting group;  
optionally followed by

(i) removal of excess  $^{18}F^-$ , for example by ion-exchange chromatography; and/or

25 (ii) removal of the protecting groups; and/or

(iii) removal of organic solvent; and/or

(iv) formulation of the resultant compound of formula (II) as an aqueous solution.

6. A radiopharmaceutical kit for the preparation of  $^{18}\text{F}$ -FDG for use in PET, which comprises:

- 5 (v) a vessel containing a compound of formula (I) according to any of claims 1 to 4 ; and
- (vi) means for eluting the vessel with a source of  $^{18}\text{F}^-$  ;
- (vii) an ion-exchange cartridge for removal of excess  $^{18}\text{F}^-$ ; and optionally
- (viii) a cartridge for solid-phase deprotection of the resultant product of formula (II) as defined in claim 5 .

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7. A cartridge for a radiopharmaceutical kit for the preparation of an  $^{18}\text{F}$ -FDG for use in PET which comprises:

- (i) a vessel containing a compound of formula (I) according to any of claims 1 to 4; and
- 15 (ii) means for eluting the vessel with a source of  $^{18}\text{F}^-$  .

8. A method for obtaining a diagnostic PET image which comprises the step of using a radiopharmaceutical kit or a cartridge for a radiopharmaceutical kit

20 according to claim 6 or 7.